

AMENDMENTS TO THE DRAWINGS

Figure 1b is amended to include reference numerals.

REMARKS

Claims 15-29 are pending. Claims 19, 21, 22, 24, 31 and 32 were previously withdrawn from consideration. By this Amendment claims 15 and 34 are amended.

With respect to the objections regarding the drawings and the specification, the applicant provides a Replacement Figure 1b and amended specification. These amendments do not add new matter but simply make the specification and figures conform to the claims.

35 USC 112 Rejections

Claims 15-18, 20, 23, 27, 33 and 34 were rejected as indefinite with respect to “wheel.” Applicant has amended claims 15 and 34 to overcome this rejection. As such, Applicant respectfully requests removal of this rejection.

35 USC 102 Rejections

Claim 28 is rejected as anticipated based on Fletcher et al. (US 3,187,797). Applicant respectfully traverses this rejection. Fletcher discloses a water deflecting device on a pneumatic tire. Fletcher does not disclose the water-deflecting annulus smoothly enveloping the junction between the tire and the rim. The device of Fletcher instead is placed in between the tire and the rim and sticks out from between them. In Figure 1 of Fletcher, the rim 9 does not close the gap between said tire and rim so is not streamlined as called out in the claim 28. Likewise, in Figure 2 – 7 of Fletcher, the annulus does not smoothly close the gap [See 17a] and the first surface does not maintain contact with the tire. Thus, there is no smooth enveloping of the junction.

Furthermore, the annulus does also not interface smoothly with the tire surface and rim surface in order to give a streamlined air flow.

The Examiner seems to believe that these are functional features. However, the placement and positioning of structural elements of an apparatus must be considered to be structural features. An element that does not smoothly envelope a junction or streamline an air flow must be structurally different from one that does. Hence, claim 28 does have novel structural features over Fletcher.

35 USC 103 rejections

The Examiner has rejected claims 15-18, 20, 23, 27 -29, 33 and 34 as obvious based on Large (US 5,100,083) in view of Roth (US 1,743,074). Applicant respectfully traverses. Large discloses a retractable landing gear. The claims are novel over Large as Large does not disclose any type of separate part between the rim and tire. Roth discloses a fixed landing gear with a separate part in contact with a tire at one end and the hub disk 26 at the opposing end. The separate part of Roth is never in contact with the rim. The US Supreme Court has consistently held that a claimed invention having fewer elements than the prior art does not necessarily prevent patentability if the claimed invention performs the same functions as the prior art despite the fewer elements. Richards v. Chase Elevator Co. et al., 159 U.S. 477, 486 (1895). In other words, the invention can occur in taking existing elements to produce “the same result in a more efficient and facile manner” by reducing the number of elements necessary to perform the functions of the claimed invention. Glade v. Walgreen Co. et al., 122 F.2d 306, 309 (7th Cir., 1941). Roth discloses an intricate structure to place a rubber disk between the wheel and the hub

disk of a fixed landing gear. Hence, the combination of these references fails to incorporate all of the limitations of the independent claims.

Moreover, applicant challenges the reasoning behind this combination. It is believed the invention as claimed is inventive over the combination of the two documents for the following reasons. First, when starting from Large, and looking to reduce noise on a modern aircraft with **retractable** landing gear, the skilled person would not consider the disclosure of Roth. This is for several reasons:

i) The skilled person would not look to a **fixed** landing gear arrangement. A fixed landing gear is deployed throughout the entire flight of the aircraft. Hence, reducing air resistance is very important as this has a large impact on fuel efficiency etc. However, for a retractable landing gear, the air resistance contributed by the deployed landing gear has a negligible impact on the overall fuel efficiency and aerodynamic efficiency of the aircraft (given that the landing gear is stowed for the majority of the time when the aircraft is airborne). Furthermore, the landing gear is deployed when the aircraft is coming in to land (and also for a much shorter period when the aircraft takes off). At that time, there is a desire to reduce the speed of the aircraft and so aerodynamic efficiency is not especially important. Hence, there is no motivation to reduce air resistance on a retractable landing gear. Therefore, it would not be obvious to combine Roth with a retractable landing gear (such as Large).

ii) Furthermore, noise-reduction has only recently become a significant design issue to be considered during design of the aircraft. Thus, the skilled artisan would not consider a disclosure that clearly relates to aircraft of yesteryear. The design of modern large commercial aircraft (the technical field within which noise-reduction is relevant) involves processes and design

considerations that render obsolete design or patent documents concerning the aircraft designs at the very early stages of the aviation industry. Roth clearly relates to a very old and outdated design of aircraft and would not be consulted by the skilled artisan; if consulted, the document would instantly be dismissed as too out-of-date to be of any assistance.

iii) The Roth document discloses a spoked wheel which is entirely different to that used on modern retractable landing gear. Significant structural change would be required to make the disclosure of Roth work on a modern deployable landing gear. This is because a modern landing gear would not have a spoked wheel.

Therefore, as the skilled person would not look at or consider the disclosure of Roth when looking to reduce noise on a deployable landing gear, the invention must be considered inventive in view of Large as a starting point.

Secondly, starting from Roth, there is no motivation to convert the aircraft of Roth into one with a movable (stowable and deployable) landing gear. Such modifications would of course require significant structural alterations in the designs of Roth, which suggest that such changes would not be readily contemplated.

Therefore, as there is no motivation to modify Roth, the invention must be considered inventive in view of Roth as a starting point. Applicant respectfully requests removal of the rejections based on this combination. As the independent claims are in condition for allowance so are the respective dependent claims.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas G. Dickson". The signature is fluid and cursive, with the first name "Thomas" and last name "Dickson" clearly distinguishable.

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